NESMEYANOV, A.N., akademik; YAVORSKIY, B.M.; ZASLAVSKAYA, G.B.; KOCHETKOVA, N.S.

Absorption spectra of some ferrocene derivatives. Dokl. AN SSSR
160 no.4:837-840 F '65.   (MIRA 18:2)

1. Institut elementoorganichesk:kh soyedineniy AN SSSR.

S/020/63/149/001/013/023

AUTHORS: Yavorskiy, B. M., Kochetkova, N. S., Zaslavskaya, G. B.,

TITLE: Absorption spectra of some ferrocene derivatives

TEXT: Absorption spectra were taken of acyl and alkyl ferrocene
derivatives dissolved in isooctane. Results: 1) The break at 528 m

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S/020/63/149/001/013/023
B144, B160

spectra of the heterocyclic disubstituted ferrocene derivatives differed
from those of the corresponding monosubstituted compounds in the position
as well as in the intensity of the absorption bands. 4) The absorption
spectra depend on the nature of the substituting group, as the difference
between the absorption bands of ferrocene and its alkyl homologs is only
slight. An insignificant hypsochrome shift of the 440 mμ band was

and 2 tables.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk
                SSSR (Institute of Elemental Organic Compounds of the
                Academy of Sciences USSR)

Card 2/3

Absorption spectra of some ...

SUBMITTED: December 1, 1962

S/020/63/148/001/015/023
3144/B 86

Card 3/3

L 33283-66   EWP(1)/EWT(m)   RM

ACC NR: AR6017230   SOURCE CODE: UR/0058/65/000/012/D027/D027

AUTHORS: Yavorskiy, B. M.; Zaslavskaya, G. B.; Kochetkova, N. S.; Nesmeyanov, A. N.

TITLE: Absorption spectra of certain derivatives of ferrocene

SOURCE: Ref. zh. Fizika, Abs. 12D218

REF SOURCE: Tr. Komis. po spektroskopii. AN SSSR, t. 3, vyp. 1, 1964, 350-354

TOPIC TAGS: absorption spectrum, ferrocene, absorption band

ABSTRACT: The authors investigated the absorption spectra of ferrocene, of its alkyl
and acyl derivatives in the region 300—180 nm, and also the absorption spectra of
carboxylic acids of ferrocene and their ethers in the 180-230 nm region. The oscil-
lator strengths of all the investigated bands are calculated for absorption. Earlier
deductions concerning the position of the bands and the laws governing their shifts
are confirmed. [Translation of abstract]

SUB CODE: 20 ,07/

Card 1/1

ZASLAVSKAYA, I.G.

Calculating the energy of the 2 p excited state of an exciton in the case of intermediate coupling. Fiz. tver. tela 3 no.8:2240-2244 Ag '61.   (MIRA 14:8)

1. Institut poluprovodnikov AN USSR, Kiyev.
              (Excitons)
              (Dynamics of a particle)

ZASLAVSKAYA, I. G.

Calculation of the first excited state of the F-center with
regard to degeneration. Fiz. tver. tela 4 no.4:1963-967
Ap '62.   (MIRA 15:10)

1. Institut poluprovodnikov AN UkrSSR, Kiyev.

(Energy-band theory of solids)
(Color centers)

27275

S/181/61/003/008/005/034
B102/B201

24.7700

AUTHOR: Zaslavskaya, I. G.

TITLE: Calcualtion of the energy of the excited state 2p of an
              exciton with intermediate coupling

PERIODICAL: Fizika tverdogo tela, v. 3, no. 8, 1961, 2240 - 2244

TEXT: A calculation of excited exciton states with intermediate coupling is
given, the variable parts of the displacements of the normal coordinates
from the position of equilibrium being taken to be equal for all excited
states. Intermediate coupling is taken into account be means of the
approximate function

$$\psi_{mn} = A\psi_m(\mathbf{r}_1, \mathbf{r}_2) \prod_n \Phi_{n_n}[q'_n - q_{nm}(\mathbf{r}_1, \mathbf{r}_2)],$$

which had been suggested for the first time by V. M. Buymistrov and S. I.
Pekar (ZhETF, 32, 1193, 1957). Here, the displacements q_{nm} of the normal
Card 1/8

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S/181/61/003/008/C05/C34
B102/B201

Calculation of the energy of...

vibrations from the position of equilibrium depend upon the instantaneous values of electron and hole coordinates; in the ground state, $q_{\kappa m} = q_{\kappa 1 s}$. The steady-state part of displacements of normal vibrations is independent of $\vec{r}_1$ and $\vec{r}_2$, and differs for different excited states; $q'_\kappa = q_\kappa - q_{\kappa m}$ $(\vec{r}_1, \vec{r}_2)$. $\vec{r}_1$, $\vec{r}_2$ are the electron and hole coordinates, respectively., $\vec{\kappa}$ is the wave vector of lattice vibrations, q' is the vibration coordinate, ψn_κ is the eigenfunction of the problem of the harmonic oscillator, m numbers the electron-hole excited state, and $n = ...n_\kappa...$ characterizes the quantum state of the vibrational system. The function $q_{\kappa m}(\vec{r}_1, \vec{r}_2)$, while not existing in the limiting case of a strong coupling, becomes considerable if coupling turns weaker; i.e., when calculating the excited states, it is necessary to take into account $q_{\kappa m}$ as a function of m, which, however, disturbs the orthogonality of the function of the ground state and excited states. The $q_{\kappa m}$-versus-m function can then be disregarded, and the $q_{\kappa m}$ of all excited states can be taken to be equal, while $q_{\kappa m} = q_{\kappa 1 s}$ in

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Calculation of the energy of...

the ground state. The initial Hamiltonian is set up with

$$H = -\frac{\hbar^2}{2m_1}\Delta_1 - \frac{\hbar^2}{2m_2}\Delta_2 \sum_x \frac{\hbar\omega_x}{2}\left(q_x^2 - \frac{\partial^2}{\partial q_x^2}\right) + \sum_x C_x q_x \chi$$

$$\times [\chi_{-x}(r_2) - \chi_{-x}(r_1)] - \frac{e^2}{n^2|r_1 - r_2|},$$

where m_1, m_2 denote the electron and hole mass, n is the refractive index, $c = 1/n^2 - 1/\varepsilon$, and ε is the dielectric constant,

$$C_x = e \frac{\sqrt{4\pi\hbar\omega_x c}}{|x|}, \quad \chi_{-x}(\vec{r}_i) = \sqrt{\frac{2}{V}} \sin\left(-\vec{x}\vec{r}_i + \frac{\pi}{4}\right),$$

V is a unit volume. Calculating the energy of an excited state of the crystal is equivalent to seeking the relative minimum of the functional $E_{m,n} = \int \psi_{m,n} H \psi_{m,n} d\tau$; the conditions of normalization and orthogonality regarding ψ_{min} must be satisfied. A general formula is first derived for

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Calculation of the energy of...

the energy of the m-th excited state of the exciton. In the special case of m = 2p considered here, one obtains:

$$\frac{\pi n^4 \hbar^2}{\mu e^4} E_{2p,n} = -\frac{1}{2} x_1 (5 + 3y_1) - \gamma \frac{\pi n^2 e}{k(2n+1)} F(k, x_0, y_0, x_1, y_1),$$

where

$$F(k, x_0, y_0, x_1, y_1) = 2\sqrt{\frac{k}{x_0 y_0}} [2^{-1/2} U^{(1/2)}(y_0) + C_1^{1/2}(y_0) + k C_1^{1/2}(y_0) -$$

$$- 2^{1/2} C_0^{1/2}(y_0) - 2^{1/2} k C_0^{1/2}(y_0) - (1+k) C_1^{1/2}(y_0) - S_1^{(1/2)} - k S_1^{(1/2)} + (1+k) S_1^{(1/2)} +$$

$$+ (1+k) S_0^{(1/2)} + S_1^{(1/2)} + k S_3^{(1/2)}] + 2\sqrt{\frac{k}{x_1 y_1}} [U^{(1/2)}(y_1) - 2(1+k) C_1^{1/2}(y_1)] +$$

$$+ \frac{1}{3x_1}\sqrt{\frac{x_1 y_1}{k}} [2k^2 C_1^{-1/2}(y_1) + 2k C_2^{-1/2}(y_1) + (1+k)^2 2^{1/2} k^{1/2} y_1^{1/2} -$$

$$- (1+k)(1+k^2) C_3^{-1/2}(y_1)] + \frac{1}{3x_1}\sqrt{\frac{x_0 y_0}{k}} [-2k^2 S_1^{-1/2} - 2k S_1^{-1/2} +$$

$$+ (1+k)(1+k^2) S_3^{-1/2} + (1+k^2) S_1^{-1/2} + (1+k)^2 S_3^{-1/2} +$$

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$$+ k(1+k^2)S_\delta^{(-1/2)} - 2k^2 C_\delta^{(-1/2)} - 2kC_1^{(-1/2)}] - \frac{x_1^{2/3}y_1^{2/3}}{2\cdot 5\cdot x_1^2 k^{7/2}} \times$$

$$\times [k^4 C_1^{-7/2}(y_1) + kC_2^{-7/2}(y_1) - k^3(1+k)C_3^{-7/2}(y_1)] -$$

$$- \frac{x_0^{2/3}y_0^{2/3}}{2\cdot 5\cdot x_1^2 k^{7/2}} [-k^4 S_1^{(-1/2)} - kS_2^{-2/3} + k^3(1+k)S_3^{(-1/2)} +$$

$$+ k^2 L_{13}^{(-1/2)} + k^2 L_{23}^{(-1/2)}];$$

$$C_i(y_0) + \frac{x_0 y_0}{x_1 y_1} C_j(y_1) = L_{ij}; \quad C_i(y_0) + \frac{x_0 y_0}{x_1}\frac{(1+k)^2}{2k} = G_i;$$

$$y_0 \frac{(1+k)^2}{2k} + \frac{x_0 y_0}{x_1 y_1} C_i(y_1) = Q_i;$$

$$y_0 \frac{(1+k)^2}{2k}\left(1 + \frac{x_0}{x_1}\right) = L_0.$$

i = 1,2,3;   j = 1,2,3

Card 5/8

Calculation of the energy of...

$$C_1(y_i) = 1 + y_i k, \qquad C_5(y_i) = 1 + y_i \frac{1 + 3k^2}{4k},$$

$$C_2(y_i) = 1 + \frac{y_i}{k}, \qquad C_6(y_i) = 1 + y_i \frac{3 + k^2}{4k},$$

$$C_3(y_i) = 1 + y_i \frac{1 + k^2}{2k}, \qquad C_7(y_i) = 1 + y_i \frac{1 + 2k + 3k^2}{2k},$$

$$C_4(y_i) = 1 + y_i \frac{1 + k + k^2}{k}, \qquad C_8(y_i) = 1 + y_i \frac{3 + 2k + k^2}{2k},$$

$$U^{(i/l)}(y_i) = C_1^{l/h}(y_i) + k C_1^{l/h}(y_i) + 2^{-l/h} \frac{(1+k)^2}{k^{l/h}} y_i^{l^h} + (1+k) C_3^{l/h}(y_i),$$

$$i = 0, 1.$$

$$L_{11}^{(n)} + Q_1^{(n)} - L_{31}^{(n)} = S_1^{(n)}, \qquad L_{13}^{(n)} - G_1^{(n)} = S_4^{(n)},$$

$$L_{22}^{(n)} + Q_2^{(n)} - L_{32}^{(n)} = S_2^{(n)}, \qquad L_{23}^{(n)} - G_2^{(n)} = S_5^{(n)},$$

$$Q_3^{(n)} - L_{33}^{(n)} = S_3^{(n)}, \qquad G_3^{(n)} - L_{33}^{(n)} = S_6^{(n)},$$

$$n = -\frac{3}{2}, -\frac{1}{2}, \frac{1}{2}.$$

Card 6/8

Calculation of the energy of...

In case of a weak coupling $\left(k < 3,\ y_0 = y_1 = 0\right)$, the expression for the energy is simplified:

$$\frac{\pi n^4 \hbar^2}{\mu e^4} E_{2p,\pi} = -\frac{5}{2} x_1 - \gamma \frac{2\pi n^2 o (1+k)^2}{k(2n+1)} \frac{1}{\sqrt{2x_1}} \times$$

$$\times \left\{ \sqrt{\frac{x_1}{2x_0}} + \frac{4}{3} - \left(1 + \frac{x_1}{x_0}\right)^{\!1/4} - \frac{1}{3}\left(1 + \frac{x_1}{x_0}\right)^{\!-1/4} \right\}$$

$$x_0 = 0.888\ldots,\quad x_1 = 0.1422\ldots$$

The second term characterizes the deviation from the hydrogen-like level. For the case of the Cu_2O crystal ($\hbar\omega = 0.0313$ ev, $n^2 c = 0.556$, $n^2 = 4$), theoretical results are compared with experimental data. The following relations hold for $k = 1,2$ and $m_2 = 2$ in dimensionless units:

$$\frac{E_n n^4 \hbar^2}{\mu e^4} \cdot f_{2p} = -0.355\ldots$$

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Calculation of the energy of...

S/181/61/003/008/005/034
B102/3201

theor.   exper.
k = 1, ΔE = -0.140, ΔE = 0
k = 2, ΔE = -0.236 ΔE = -0.169

There are 7 references: 6 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: T. D. Lee, F. E. Low, D. Pines. Phys. Rev.; 90, No. 2, 297, 1953.

ASSOCIATION: Institut poluprovodnikov AN USSR Kiyev (Institute of Semiconductors AS UkrSSR, Kiyev)

SUBMITTED: December 3, 1960 (initially), February 1, 1961 (after revision)

Card 8/8

ZASLAVSKAYA, I.G.

Exciton at the intermediate bond taking the translation into account.
Fiz. tver. tela 2 no.9:2243-2247 S '60.   (MIRA 13:10)

1. Institut fiziki AN USSR, Kiyev.
                    (Excitons)

ZASLAVSKAYA, I.G.

TOLPYGO, K.B.; ZASLAVSKAYA, I.G.

Natural vibration spectra of NaCl taking ion deformation into
account. Ukr. fiz. zhur. 1 no.3:226-244 Jl-S '56.   (MLRA 9:12)

1. Institut fiziki Akademii nauk URSR.
          (Sodium chloride--Spectra)

ZASLAVS'KA I.G.

Calculating the heat capacity of NaCl crystals. Ukr. fiz. zhur.
1 no.4:366-370 O-D '56.   (MLRA 10:2)

1. Institut fiziki AN URSR.
          (Sodium chloride) (Heat capacity)

ZASLAVSKAYA, I.G.

Energy spectra of weakly coupled excitons. Fiz. tver. tela 5 no.7:
1791-1796 Jl '63.   (MIRA 16:9)

1. Institut poluprovodnikov AN UkrSSR, Kiyev.
                (Excitons)

85151

S/181/60/002/009/042/047/XX
B004/B070

9,4300 (1138,1143,1144)

AUTHOR: Zaslavskaya, I. G.

TITLE: Exciton With Intermediate Coupling Taking Into Consideration
             the Translation

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 9, pp. 2243-2247

TEXT: The ground state of exciton is calculated according to the inter-
mediate coupling theory of V. M. Buymistrov and S. I. Pekar (Refs. 1,2)
taking into account the translational symmetry. Since the Hamiltonian is
invariant to translations, its eigenfunction may be chosen equal to that
of the translation operator: $T_\xi \Psi_K = \exp(iK\xi)\Psi_K$; the quasi-momentum
of the exciton is $\hbar\vec{K}$. In the translation-symmetric approximation, the
wave function of the system is written as follows:

$$\psi_K = \int e^{-iK\xi} T_\xi e^{-\alpha r^2 - \beta R^2} \prod_n e^{-\frac{1}{2}\left(z_n^2 + \frac{1}{2}\ln n\right)} d\xi,$$

(1)

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Exciton With Intermediate Coupling Taking   S/181/60/002/005/042/047/XX
Into Consideration the Translation   B004/B070

m_1, and m_2 are the masses and r_1, and r_2 the radius vectors of the electron and the hole, respectively; $r = r_1 - r_2$; $R = (m_1 r_1 + m_2 r_2)/(m_1 + m_2)$. α and β are the parameters of approximation defined in Ref. 4. It is found that the problem is reduced to calculating $\mathcal{H}_K = \int(\psi_K^* H \psi d\tau)/\int(\psi_K^* \psi_K d\tau)$ and making the approximations with respect to the parameters a_ι and b_ι of the wave vector. The following results are obtained for the energy of ground state of the exciton:

$$\frac{\pi n^4 \hbar^2}{\mu e^4}\mathcal{H} = \frac{\pi n^4 \hbar^2}{\mu e^4}\mathcal{H}^0 - \gamma\frac{\pi 3^2}{2^3}\frac{W_1}{W_0} + k^2\gamma^2\frac{3^4\pi^2}{2^1 n^2 c}\frac{W_1}{W_0^2},$$

$$W_1 = \frac{(1+k)^2}{\pi k}\frac{(xy)^2}{n^2 c} + \frac{2(1+k)^2}{3\pi k^{7/4}}(xy)^{3/4}F_1 + \frac{2(1+k)^3}{3^2\pi k}n^2 c x y \times$$

$$\times\left[\frac{1}{k}F_2^2 + F_3^2\right] + \frac{2(1+k)^2}{5\pi k}n^2 c x y\left[\frac{1}{k}C_1^2 F_4^2 + C_2^2 F_5^2\right], \tag{6}$$

$$F_1 = -\left(1 - \frac{1}{\sqrt{2}}\right)C_1^{-3/4} - k\left(1 - \frac{1}{\sqrt{2}}\right)C_2^{-3/4} + (1+k)\left(1 + \frac{1}{\sqrt{2}}\right)C_3^{-3/4} -$$

$$- (1+k)C_4^{-3/4} - \sqrt{2}C_5^{-3/4} - k\sqrt{2}C_6^{-3/4} + C_7^{-3/4} + kC_8^{-3/4},$$

$$F_2 = \left(1 + \frac{1}{\sqrt{2}}\right)C_3^{-3/4} - \left(1 - \frac{1}{\sqrt{2}}\right)C_1^{-3/4} - C_7^{-3/4} - \sqrt{2}C_5^{-3/4} + C_7^{-3/4},$$

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Exciton With Intermediate Coupling Taking   S/181/60/002/009/042/047/XX
Into Consideration the Translation   B004/B070

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$$F_3 = \left(1 + \frac{1}{\sqrt{2}}\right)C_3^{-1/2} - \left(1 - \frac{1}{\sqrt{2}}\right)C_2^{-1/2} - C_4^{-1/2} - \sqrt{2}C_6^{-1/2} + C_8^{-1/2},$$

$$F_4 = \left(1 + \frac{1}{2^{1/2}}\right)C_3^{-1/2} - \left(1 - \frac{1}{2^{1/2}}\right)C_1^{-1/2} - C_4^{-1/2} - \frac{1}{\sqrt{2}}C_5^{-1/2} + C_7^{-1/2},$$

$$F_5 = \left(1 + \frac{1}{2^{1/2}}\right)C_3^{-1/2} - \left(1 - \frac{1}{2^{1/2}}\right)C_2^{-1/2} - C_4^{-1/2} - \frac{1}{\sqrt{2}}C_6^{-1/2} + C_8^{-1/2},$$

$$C_1 = 1 + yk; \quad C_4 = 1 + y\frac{1+k+k^2}{k}; \quad C_7 = 1 + y\frac{1+2k+3k^2}{2k},$$

$$C_2 = 1 + \frac{y}{k}; \quad C_5 = 1 + y\frac{1+3k^2}{4k}; \quad C_8 = 1 + y\frac{3+2k+k^2}{2k},$$

$$C_3 = 1 + y\frac{1+k^2}{2k}; \quad C_6 = 1 + y\frac{3+k^2}{4k}.$$

Here, n = refractive index, μ = reduced mass of the electron and the hole, k = m_2/m_1, W_0 = $3(1+k^2)(xy)^2/4\pi$ $kn^2 c$, x = $\pi\alpha$ $(n^2\hbar^2/\mu e^2)^2$, and

y = $\beta k/\alpha$ $(1+k)^2$. The values obtained for the groundstate energy and the effective mass of the exciton are considerably lower than those obtained by V. A. Moskalenko (Ref. 5) following Feyman's method. When the inter-

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Exciton With Intermediate Coupling Taking   S/181/60/002/009/042/047/XX
Into Consideration the Translation   B004/B070

mediate coupling is taken into account, a considerable deviation from
the hydrogen-like spectrum is found. The value obtained for the effective
mass of the exciton in the case of strong coupling by using the approxi-
mation formulation (1) is half of that obtained in Ref. 5. In the case
of an extremely weak coupling, the value of the effective mass agrees
with the exact value. V. M. Buymistrov and I. M. Dykman are thanked for
discussions. There are 8 references: 7 Soviet and 1 German.

ASSOCIATION: Institut fiziki AN USSR, g.Kiyev (Institute of Physics of
               the AS UkrSSR, Kiyev)

SUBMITTED: January 15, 1960

Card 4/4

TOLPYGO, K.B.; ZASLAVSKAYA, I.G.

Normal coordinates and natural frequencies of KCl, calculated by
taking into account ion deformation. Trudy Geof.inst. no.4:
71-92 '53.
(Potassium chloride) (Crystallography)   (MLRA 7:12)

ZASLAVSKAYA, I. G.

USSR/Physics - Semiconductors

FD-3102

Card 1/2   Pub. 153 - 1/24

Author   : Tolpygo, K. B.; Zaslavskaya, I. G.

Title   : Bipolar diffusion in semiconductors in the case of considerable
               currents

Periodical   : Zhur. tekh. fiz., 25, No 6 (June), 1955, 955-977

Abstract   : The authors solve the equations describing bipolar diffusion in
               a semiconductor in which there is an inversion in the sign of
               conductivity thanks to the contact field or to the inhomogeneous
               composition of the admixture (impurity). They consider the ad-
               missible direction of the current in the case of planar or semi-
               spherical contact. They show that in the case of considerable
               currents the essential role is played by the penetration of current
               carriers of one sign into the region of the semiconductor with
               current carriers of the opposite sign, in addition to the familiar
               "flooding" of the blocking layer by current carriers. As a result
               the total resistance of the system turns out to be considerably
               less than the resistance of a homogeneous semiconductor of the
               same thickness but without the blocking (valve) layer. The authors
               present sample volt-ampere characteristics for direct currents.

They thank Professor V. Ye. Lashkarev, Active Member of Academy of
Sciences of Ukrainian SSR, who posed the problem.   Six references:
e.g. N. F. Deygen, V. Ye. Lashkarev, Trudy IFAN USSR, No 4, 3,
1953.

Institution   :

Submitted   : February 8, 1954

ZASLAVSKAY, I. C.

PHASE I BOOK EXPLOITATION   SOV/3140

24(4)

Akademiya nauk Ukrinskoy SSR. Instītut fīzīki

Fotoelektricheskiye i optichaskiye yavleniya v poluprovodnikakh; trudy pervogo vsesoyuznogo soveshchaniya po fotoelektricheskim i optīchēskim yavlenīyam v poluprovodnikakh, g. Kiyev, 20-26 noyabrya 1957 g. (Photoelectric and Optical Phenomena in Semi-conductors; Transactions of the First Conference on Photoelectric and Optical Phenomena in Semiconductors...) Kiyev, 1959. 403 p.

Additional Sponsoring Agency: ....; nauk USSR. Prezidium. Komissiya po poluprovodnikam.

Ed. of Publishing House: I. V. Kisina; Tech. Ed.: A. A. Matveychuk; Resp. Ed.: V. Ye. Lashkarev, Academician, Ukrainian SSR, Academy of Sciences.

PURPOSE: This book is intended for scientists in the field of semi-conductor physics, solid state spectroscopy, and semiconductor devices. The collection will be useful to advanced students in universities and institutes of higher technical training specializing in the physics and technical application of semi-conductors.

COVERAGE: The collection contains reports and information bulletins (the latter are indicated by asterisks) read at the First All-Union Conference on Optical and Photoelectric Phenomena in Semi-conductors. A wide scope of problems in semiconductor physics and technology are considered: photoconductivity, photoelectro-motive forces, optical properties, photoelectric cells and photoresistors, the actions of hard and corpuscular radiations, the properties of thin films and complex semiconductor systems, etc. The materials were prepared for publication by E. I. Rashba, O. V. Snitko, K. B. Tolpygo, A. F. Lubchenko, and M. K. Sheykman. Reference and discussion follow each article.

Photoelectric and Optical Phenomena   (Cont.)   SOV/3140

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DYKMAN, I.M.; ZASLAVSKAYA, I.G.

Excitons in ionic crystals with intermediate bonds. Zhur. tekh.
fiz. 28 no.9:1959-1965 S '58.   (MIRA 11:10)

1.Institut fiziki AN USSR, Kiyev.
            (Ionic crystals) (Excitons)

AUTHORS: Dykman, I. M., Zaslavskaya, I. M.   SOV/57-23-9-15/33

TITLE: Excitons in Ionic Crystals With Intermediate Binding (Eksitony
             v ionnykh kristallakh pri promezhutochnoy svyazi)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1958, Vol 28, Nr 9, pp. 1959 - 1965 (USSR)

ABSTRACT: Quite recently a method for the investigation of a system
             of electric charges in ionic crystals with intermediate
             binding was suggested by Buymistrov and Pekar in reference
             6. Among the methods found in publications of the inves-
             tigation of intermediate bindings this method proved to be
             the best when applied to polarons. In this paper the method
             is applied to excitons. The energy level of the system is
             reduced at all values of the crystal parameters as compared
             to the hydrogen-like level of the exciton. The energy de-
             creases lineraly with n^2c due to the interaction with the
             lattice. From certain levels this dependence can be more
             pronounced. n denotes the refraction index, and
             $$c = \frac{1}{n^2} - \frac{1}{\varepsilon}$$, where ε denotes the dielectric constant. The
Card 1/2   two types of excitons resulting from the work reported in

Excitons in Ionic Crystals With Intermediate Binding   SOV/57-23-9-15/33

reference 2, prove to be physically justified from the viewpoint of a more general method, as limiting cases with closely and loosely bound excitons. There are 1 figure and 7 references, 5 of which are Soviet.

ASSOCIATION: Institut fiziki AN USSR, Kiyev (Institute of Physics AS UkrSSR, Kiyev)

Card 2/2

AUTHOR: Zaslavskaya, I. G.

TITLE: Calculation of the first excited state of an F-center taking degeneracy into account

PERIODICAL: Fizika tverdogo tela, v. 4, no. 4, 1962, 963 - 967

TEXT: The first excited state of an F-center is calculated by the method of variations of H. Fröhlich et al. (Phil. mag., 41, no. 314, 221, 1950). The wave function of the first excited state is

$$\Psi = \sum_j C_j \psi_j \Phi_0 + \sum_{jx} b_{jx} \psi_j e_x^+ \Phi_0 \, ,$$

where Φ_0 is the product of the oscillator wave functions. C_j and b_{jx} are the variation parameters. If the F-centers are weakly coupled to the lattice vibrations, the results agree with the second perturbation theoretical approximation. Taking interaction into account leads to the splitting of the quadruply degenerate first excited level in two: one 2s

Card 1/2

Calculation of the first excited ...

S/181/62/004/004/018/042
B104/B108

(higher) and one 2p level (lower). This is explained by the electron of
the F-center being in the Coulomb field of an ion and in a polarizing field.
All four levels in the former are degenerate.

ASSOCIATION: Institut poluprovodikov AN USSR Kiyev (Institute of Semi-
conductors AS UkrSSR, Kiyev)

SUBMITTED: November 30, 1961

Card 2/2

ZASLAVSKAYA, L., inzh.; POBEREZHNYY, I., inzh.; SAMOVARSHCHIKOV, V., inzh.

Transportation of watermelons in containers. Rech.transp. 20 no.4:
43-45 Ap '61.   (MIRA 14:5)
          (Melons—Transportation) (Packing for shipment)

ZASLAVSKAYA, Lyudmila Aleksandrovna; RYGALIN, A.G., red.; SHCHEDRINA,
N.L., tekhn. red.

[Collective farm forest management] Kolkhoznoe lesopol'zo-
vanie. Moskva, Gosiurizdat, 1962. 38 p.   (MIRA 15:7)
(Forest management)

L 43069-66   EWT(m)/EWP(w)/T/EWP(t)/ETI   IJP(c)   JD

ACC NR: AP6014337   SOURCE CODE: UR/0122/65/000/012/0057/0060

AUTHORS: Fedotova, L. S. (Engineer); Kubyshkina, T. D. (Engineer); Zaslavskaya, L. V. (Engineer)

ORG: none

TITLE: The properties and structure of 1Kh12N2VMFA stainless steel

SOURCE: Vestnik mashinostroyeniya, no. 12, 1965, 57-60

TOPIC TAGS: austenite, martensite steel, martensitic transformation, hardness, carbide phase, tempering, steel microstructure, microhardening/ 1Kh12N2VMFA martensite steel

ABSTRACT: The properties and structure of 1Kh12N2VMFA martensite steel are given. Its chemical composition is (in %): 0.12 C, 12 Cr, 1.5 Ni, 2 W, 0.25 V, and 0.4 Mo. This steel can operate for prolonged periods at temperatures to 600C. The introduction of nickel allows the formation of δ-ferrite to be avoided. Its best mechanical properties are achieved with quenching from a temperature corresponding to fairly complete dissolution of the carbon and alloy elements (from 1000--1020C in oil or in air, with tempering at 580 or 680C). In the hardened state, the steel has a hardness of HRC 44--46 (see Fig. 1). The magnetic and dilatometric methods were used to study the martensitic transformation in the steel. It was found that the displacement of the boundaries of martensitic transformation did not substantially increase the amount

Card 1/2   UDC: 621.78:669.15-194.1Kh12N2VMFA
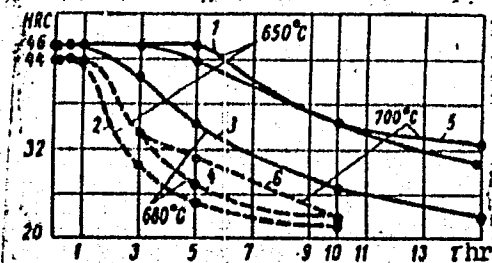
L 4069-66

ACC NR: AP6014337

Fig. 1. Hardness of steel as function of holding time at various isotherm temperatures: 1, 3, 5 (continuous curves)—after austenization at 1050C; 2, 4, 6 (dotted curves)—after austenization at 950C.

of residual austenite. Orig. art. has: 3 tables, 2 photographs, and 4 graphs.

SUB CODE: 11/   SUBM DATE: none

Card 2/2   hs

ZASLAVSKAYA, L.V.

AUTHORS: Popova, N.M., Zaslavskaya, L.V.   32-1-10/55

TITLE: The Colorimetric Determination of the Iron Carbide Content in
                Steel (Kolorimetricheskoye opredeleniye soderzhaniya karbida
                zheleza v stalyakh).

ABSTRACT: In the introduction it is said that iron carbide gives a brownish-
                red color in a sodium picrate solution, but that this is not the
                case with metallic iron (in form of a fine powder), conditions
                otherwise being the same. It is further said that, if anode pre-
                cipitations have this color, this is due to the formation of iron
                carbide. For purposes of analysis the anode solution of steel in a
                cooled potassium hypochlorite solution, with a content of citric
                acid at a current density of 0.02 A/cm^2 was used. The precipitation
                was dried in an exsiccator over phosphorus pentoxide for a period
                of 20 hours. The precipitation thus obtained was treated with a
                20% NaOH solution and a 0.1% picric acid solution. The solution ob-
                tained was boiled for 30 minutes and then cooled. The iron content
                in the precipitation was then determined and the filtrate was
                colorimetrized. In the case of an anode precipitation of silicon
Card 1/2   steel (which was isothermally hardened) it would be possible to

The Colorimetric Determination of the Iron Carbide   32-1-10/55
Content in Steel

ascertain the remaining austenite; no iron carbide content was
ascertained by X-ray analysis, but by a treatment of the precipi-
tation with sodium picrate (as above) the presence of this carbide
was ascertained. For colorimetrization the glycerin suspension of
the anode solution was used, for which purpose such a suspension of
silicon steel, which had been softened at 400°, was used. The iron
content in the carbides was computed by means of the formula

$$\%Fe = \frac{A}{B} \cdot 100,$$ where A denotes the content of iron determined accord-
ing to the intensity of coloring (basing upon the standard) and B -
the content of iron which could be ascertained in the anode precip-
itation after treatment with a sodium picrate solution. In con-
clusion it is said that the coloring intensity of the solutions from
steel samples softened at 600° turns out to be much weaker than
those softened at 200, 300 and 400°, because in the latter case the
highly dispersive carbides are formed. There are 1 figure, 1 table
and 2 Slavic references.

AVAILABLE: Library of Congress

Card 2/2   1. Iron carbide-Determination   2. Iron carbide-Test methods

5(4)

AUTHORS: Popova, N. M., Platonova, A. F.,   SOV/32-25-3-4/62
              Zaslavskaya, L. V.

TITLE: Chemical Methods of Phase Analysis of Metalloceramic Alloys on
              the Basis of Titanium Carbide and Diborides of Chromium and
              Titanium (Khimicheskiye metody fazovogo analiza
              metallokeramicheskikh splavov na osnove karbida titana i
              diboriaov khroma i titana)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 3, pp 271-273 (USSR)

ABSTRACT: In order to separate metals from carbides, borides and other
              high-melting compounds a chemical treatment must be carried out
              in which only the metal dissolves. Since an electrochemical
              dissolution of solid samples is not suited in this case,
              fine-sieved samples (270 meshes) were used. Titanium carbide (I)
              could be separated from nickel, cobalt, chromium, and iron by
              boiling out the metal powder in hydrochloric acid. The chromium
              content in the carbide phase depends on the preparation process
              of the sample (Table 1). The separation of (I) from metallic
              niobium was attained by a boiling out with hydrofluoric acid.
              In the presence of molybdenum or tungsten an electrochemical
Card 1/2   dissolution of the pulverized sample must take place since

Chemical Methods of Phase Analysis of Metalloceramic   SOV/32-25-3-4/62
Alloys on the Basis of Titanium Carbide and Diborides
of Chromium and Titanium

Mo and W dissolve difficultly in the acid. A special apparatus
was used for the work which was carried out during 10-15 hours
at 0.3 a . The analyses of alloys on the basis of (I) show
(Table 2) that it is in a carbide phase at less than 25% Mo,
while an increase beyond 25% Mo increases the Mo content in the
binding metal up to a constant value of 25% Mo approximately.
Separations of the boride phase from metallic Mo, which were
carried out with alloys on the basis of binary diborides of
chromium and titanium according to the above-mentioned
separations, showed that apparently two boride phases -- a soluble
and an insoluble one -- form in dependence upon the conditions of
analysis. For this reason a second method of analysis was applied
by use of hydrogen peroxide (for the dissolution of Mo and the
soluble boride phase). The results of the analysis confirm the
values which had been obtained by using the electrochemical
method (Table 3). There are 3 tables.

Card 2/2

ZASLAVSKAYA, L.V.

POPOVA, N.M.; PLATONOVA, A.F.; ZASLAVSKAYA, L.V.; RYBINA, M.F.

Determining highly dispersed vanadium, molybdenum and titanium carbides.
Zav. lab. 23 no.3:269-272 '57.   (MIRA 10:6)
                        (Carbides--Analysis)

FEDOTOVA, L.S., inzh.; KUBYSHKINA, T.D., inzh; ZASLAVSKAYA, L.V., inzh.

Properties and structure of stainless steel 1Kh12N2VMFA.
Vest. mashinostr. 45 no. 12:57-60 D '65   (MIRA 19:1)

ZASLAVSKAYA, L.V.; POPOVA, N.M.

Microzonal carbide analysis on the surface of fractures of molybdenum steel. Zav.lab. 26 no.2:135-137 '60. (MIRA 13:5)
(Chromium--Molybdenum steel--Analysis)

ZASLAVSKAYA, L.V.; LASHKO, N.F.; FEDOTOVA, L.S.

    Phase constitution and properties of heat-resistant steel containing
12% chromium.   Stal' 25 no.5:448-452 My '65.   (MIRA 18:6)

TUMANOV, A.T.; KISHKIN, S.T.; BOKSHTEYN, S.Z.; BLOK, N.I.; PLATONOVA,
A.F.; SOROKINA, K.P.; ZASLAVSKAYA, L.V.; GLAZOVA, A.I.

Nina Mikhailovna Popova.   Zav.lab. 29 no.1:103-104 '63.
(MIRA 16:2)

(Popova, Nina Mikhailovna, 1914-1962)

Zaslavskaya, L. V.

AID Nr. 979-2   29 May

AUSFORMING OF STRUCTURAL STEELS (USSR)

Pevzner, L. M., I. N. Roshchina, T. D. Kubyshkina and L. V. Zaslavskaya.
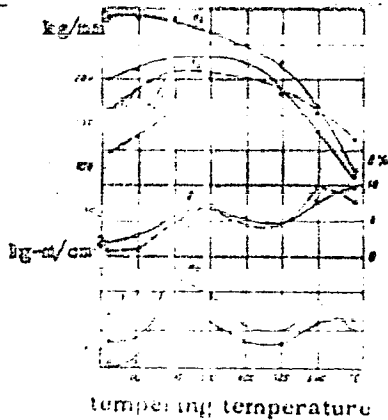. . . . . obrabotka metallov, no. 4, Apr 1963, 13-20

The effect of the low-temperature thermomechanical treatment "ausforming"
on the structure, phase composition, and mechanical properties of low-alloy
structural steels containing 0.47-0.58% C, 1.67-1.97% Cr, 2.15-2.44% Ni,
0.80-1.12% W, 0.40-0.46% Mo, and 0.9-0.28%V has been studied. Test speci-
mens 90 x 35 x 22 mm. enclosed
in 1Y18H9T steel (AISI 321) en-
velopes were austenitized at

Card 1/3

AID Nr. 9?9-2   29 May

AUSFORMING OF STRUCTURAL STEELS (Cont'd)   S/129/63/000/004/004/014

1000°C cooled to 500-530°C in a saltpeter bath, rolled at this temperature in several passes with a total reduction of 50% oil quenched, and tempered at 100-550°C for 3 hrs or at 600-700°C for 1 hr. The maximum effect of ausforming. compared with conventional hardening was observed in steels as quenched or tempered at 100°C [see illustration] The optimum combination of strength and ductility was obtained in a steel containing 0 48% C, 1 15% Mn, 1 60% Si, 1 97% Cr, 2 15% Ni, 1 12% W, 0 45% Mo, and 0 28% V which after tempering at 100° C

tempering temperature

1 - 0.58% C; 2 - 0.47% C.
——— ausformed
- - - - - conventionally hardened

Card 2/3

AID Nr. 979-2   29 May

AUSFORMING OF STRUCTURAL STEELS [Cont'd]   S/129/62/000/005/014/014

had a tensile strength $\sigma_b = 280-290$ kg/mm^2 and impact strength

a_k ... With an increase in ... content ... 1.5-2 kg-m/cm^2. With tempering at 200 to 600°C the advantages ... austenitizing over conventional hardening become less pronounced, e.g. ...

... considerably lower than those of longitudinal ... martensite shaped like small plates parallel to the sheet ... were found to be oriented in the direction of rolling. X-ray diffraction patterns showed that the substructure too becomes anisotropic as a result of austenitizing. The martensite blocks of coherent scattering acquire the shape of thin plates in the sheet plane and ... has a thickness or ... that of conventional martensite ...

... to be more stable than martensite of conventionally hardened steel, tempering of the former proceeds at a lower rate than that of the latter. At temperatures over 550°C the opposite is true.   [MS]

Card 3/3

ZASLAVSKAYA, L.V.; POPOVA, N.M.

Colorimetric detection of bound carbon in low alloy structural
steels. Zav. lab. 23 no.6:656-657 Je '57.   (MIRA 10:8)
          (Colorimetry)   (Steel, Structural--Analysis)

ZASLAVSKAYA, L.V.

ABSTRACT: When dissolving steel in nitrogen acid a dark color is obtained. This phenomenon served as a basis for the method of colorimetric determination of bound carbon in steel. As, however, this method has found very little use, above all because of its low degree of sensitivity, it is recommended by this paper not to use steel itself as a subject of investigation, but the carbide precipitation which is separated on the occasion of the dissolution of steel. In order, on this occasion to eliminate the disturbing effect of iron salt coloring, and in order to make the method more sensitive, it is recommended to introduce phosphoric acid into the solution. However, an experiment is described here in which nickel steel (with 0.41% C and 5.66% Ni content) was used. It was found on this occasion that the intensity of the coloring does not depend on the iron content in the steel, but on the percentage of the bound carbon. Further, it was proved that the samples of the same type of steel, which had, however, been subjected to different thermal treatments, show also different

Card 1/2

The Colorimetric Determination of Bound Carbon in Weakly Alloyed
Types of Structural Steel.

32-6-4/54

shades of coloring. The method worked out on the basis of this ex-
periment is said to be applicable also in the case of very small
amounts of precipitation so that it is particularly well suited for
zonal analysis.

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress

Card 2/2

SELYAVO, A.L., inzh.; POPOVA, N.M., kand.tekhn.nauk; ZASLAVSKAYA, L.V., inzh.; SOLOV'YEVA, G.G., inzh.

Coiled springs made of 3Kh13 steel. Metalloved. i term.
obr. met. no.11:36-40 N '61.   (MIRA 14:12)
                    (Springs(Mechanism))
                    (Steel alloys—Heat treatment)

POPOVA, N.M.; ZASLAVSKAYA, L.V.

Determination of free and carbide carbon in austenitic chromium-
nickel steel. Zav.lab.21 no.11:1285-1288 '55.   (MLRA 9:2)
(Carbon--Analysis) (Chromium-nickel steel)

POPOVA, N.M.; PLATONOVA, A.F.; ZASLAVSKAYA, L.V.

Chemical methods of the phase analysis of metal ceramic-alloys of titanium carbide and chromium and titanium diboride. Zav.lab. 25 no.3:271-273 '59.
(MIRA 12:4)

(Cermets—Analysis)

USSR

2123. Determination of cementite in the presence of vanadium and molybdenum carbides. N. M. Popova, A. F. Platonova and L. V. Zaslavskaya (Zavod. Lab., 1949, 15 [1], 22-24). The method is based on the stability of cementite to oxidation by H_2O_2 in ethanol. The sample of steel is subjected to the anodic dissolution process (Popova, Ibid., 1945, 11, 15) and the carbides are treated with 5 ml of ethanol and 5 ml of 30 per cent. H_2O_2, followed by heating at 50° C for 1 hr., cooling and repeating the treatment. The residue is analysed for Fe to give the cementite, and the solution is analysed for V and Mo. The completeness of the separation has been checked by X-ray analysis.   G. S. Smith

4

U S S R A C

Determination of cementite in the presence of vanadium and molybdenum carbides. N. M. Popova, A. P. Platonova, and L. V. Zachins…ya. …………… No. 41. …1 (19.1).—The mixt. is ……… of dissolving VC and MoC, which are found to be readily oxidizable with H_2O_2 in alk. solns., in which cementite is insol. X-ray analysis confirmed the possibility of a quant. sepa. of the carbides of V and Mo from cementite.
W. M. Sternberg

ACCESSION NR: AP5013232   UR/0133/65/000/005/0448/0452
                                                 669.15 : 669.26

AUTHOR: Zaslavskaya, L. V.; Lashko, N. F.; Fedotova, L. S.

TITLE: Phase composition and properties of heat-resistant steel containing 12% chromium

SOURCE: Stal', no. 5, 1965, 448-452

TOPIC TAGS: chromium steel, heat resistant steel, molybdenum steel, vanadium steel, tungsten steel

ABSTRACT: The effect of alloying elements on the phase composition and properties was studied in three types of chromium steel containing approximately 12% chromium, alloyed with molybdenum, tungsten, and vanadium. At low tempering temperatures, depending upon the duration of tempering, the metastable carbides Me_3C and Me_2C are formed. The Me_2C carbides (with Cr C as the main component) cause the secondary hardness of the steels. The temperature range of existence of Me_2C carbides widens as the molybdenum and tungsten content increases. An appreciable drop in the impact strength of such steels is observed when the dispersed carbides (par-

Card 1/2

L 1678-66

ACCESSION NR: AP5013232

ticularly $Me_{23}C_6$) precipitate. In the course of tempering steels with a high molybdenum and tungsten content, all of the carbon gradually becomes fixed in the carbides, and this is followed by the formation of particles of the intermetallic phase $Me_2(W, Mo)$. The formation of this phase causes a decrease in the impact strength. Orig. art. has: 8 tables.

ASSOCIATION: none

SUBMITTED: 00   ENCL: 00   SUB CODE: MM

NO REF SOV: 005   OTHER: 002

Card 2/2

S/129/61/000/011/007/010
E073/E335

AUTHORS: Selyavo, A.L., Engineer, Popova, N.M., Candidate of
             Technical Sciences, Zaslavskaya, L.V. and
             Solov'yeva, G.G., Engineers

TITLE: Coiled springs made of the steel 3X13 (3Kh13)

PERICDICAL: Metallovedeniye i termicheskaya obrabotka
             metallov, no. 11, 1961, 36 - 40

TEXT: The investigations were made to obtain more accurate
information on the heat-treatment of this steel. Rolled rods
of steel 3Kh13 (0.26 - 0.31% C and 12.05 - 13% Cr) were subjected
to mechanical and physical tests. Phase composition and
structural transformations were determined by differential
carbide analysis, described in earlier work of the authors and
their team (Ref. 5 - "Zavodskaya laboratoriya", 1953, no. 7) and
by X-ray structural analysis (carried out by G.M. Rovenskiy
(deceased)), metallographic and electron-microscopic analyses.
Relaxation tests were made on springs   (D_{av} = 20 and 22 mm,
d = 2 mm, t = 8 and 6 mm, H = 53 mm, n = 10 and 8) which were
fixed into a rigid jig and held at the test temperatures. Due to
Card 1/3

Coiled springs ....

S/129/61/000/011/007/010
E073/E335

the rigidity of the holding device, the total deformation during
the tests remained constant. The relaxation tests of the springs
were carried out with initial stresses below the limit of pro-
portionality of the material and at stresses which slightly
exceeded the limit of proportionality. The experiments yielded
the following results: 1) it was established that strengthening
of this steel during tempering in the temperature range 300 -
500 $^{\circ}$C is associated with the decomposition of the α-phase and
rejection of disperse particles of the carbide (Fe, Cr)$_3$C in the
form of plates of a thickness below 10^{-5} mm. Rejection of the
chromium carbide (Cr, Fe)$_7$C$_3$ during tempering (at 470 $^{\circ}$C and
higher) only supplements the process of dispersion-hardening
and strengthening of the steel.2) The temper brittleness of this
steel at 475 - 550 $^{\circ}$C is attributed to the rejection of the
disperse chromium carbides (Cr, Fe)$_7$C$_3$. 3) It was established
that the tempering temperature that ensured maximum relaxation
stability of the steel 3Kh13 depends on the temperature of the
relaxation tests; on increasing the test temperature from

Card 2/3

Coiled springs ....

S/129/61/000/011/007/010
E073/E135

300 to 350 °C the optimum tempering temperature increases from
450 to 500 °C.   4) In the case that the solid solution and the
cementite (Fe, Cr)$_3$C are relatively stable, the maximum
relaxation stability of the chromium steel 3Kh13 depends on the
structural state and is apparently determined by the largest area
of the total surface of the interface between the α-phase and
the disperse carbide particles which take the role of barriers
preventing the movement of dislocations.   5) Optimum heat-
treatment of compression coil springs from this steel are:
oil-quenching from 1000 – 1050 °C;   tempering at 450 °C with a
holding time of 1 hour, followed by cooling in air, the resultant
hardness being 44-50 HRC.   6) The steel investigated is
recommended for cylindrical compression coil springs, operating
at temperatures up to 300 °C.
There are 4 figures, 3 tables and 10 references: 9 Soviet-bloc
and 1 non-Soviet-bloc. The English language reference reads as
follows:
Ref.8: K. Kuo, Iron and Steel Institute, v.173, 1953.

Card 3/3

MIRLIN, B.G.; ZASLAVSKAYA, M.G. (Kamensk-Ural'skiy Sverdlovskoy oblasti)

Case of arrhythmia in adolescence. Terap.arkh. 33 no.2:72-74
F '61.   (MIRA 14:3)
(ARRHYTHMIA)

ALABYSHEV, Aleksandr Filosofovich, doktor tekhn. nauk, prof.;
    LANTRATOV, Mikhail Fedorovich, kand. khim. nauk;
    MORaCHEVSKIY, Andrey Georgiyevich, kand. tekhn. nauk;
    ZASLAVSKAYA, M.I., red.

    [Reference electrodes for fused salts] Elektrody sravne-
    niia dlia rasplavlennykh solei. Moskva, Metallurgiia,
    1965. 129 p.   (MIRA 18:3)

ZASLAVSKAYA, M.M., sanitarnyy vrach; BELEN'KAYA, A.S., sanitarnyy vrach

Field experience in sanitary control of the district water supply.
Gig. 1 san. 24 no.2:57-59 F '59.   (MIRA 12:3)

1. Iz sanitarno-epidemiologicheskoy stantsii Sokol'nicheskogo
rayona Moskvy.
            (WATER SUPPLY
                  sanitary control of district water works (Rus))

ZASLAVSKAYA, N.A.

Changes in the protein fractions, lip- and glycoproteins in the
blood serum in epidemic hepatitis (Botkin's disease). Trudy ISGMI
no.69:21-30 '61.   (MIRA 15:11)

1. Kafedra propedevtiki vnutrennikh zabolevaniy Leningradskogo
sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. kafedroy -
chlen-korrespondent AMN SSSR prof. S.M.Ryss) i Biokhimicheskaya
laboratoriya Leningradskogo nauchno-issledovatel'skogo institut
ekspertizy trudosposobnosti i organizatsii truda invalidov (zav.
laboratoriyey - prof. Ye.A.Sel'kov).
            (HEPATITIS, INFECTIONS)   (BLOOD PROTEINS)
                (GLYCOPROTEINS)   (LIPOPROTEINS)

ZASLAVSKAYA, N.A.

Electrophoretic study of protein and lipo- and glyco-protein
fractions in the blood serum in epidemic hepatitis. Terap.arkh.
no.6:41-46 '61.   (MIRA 15:1)

1. Iz kafedry propedevtiki vnutrennikh zabolevaniy (zav. - chlen-
korrespondent AMN SSSR prof. S.M. Ryss) Leningradskogo sanitarno-
gigiyenicheskogo meditsinskogo instituta i biokhimicheskoy labo-
ratorii (zav. - prof. Ye.A. Sel'kov) Leningradskogo instituta
ekspertizy truda i netrudosposobnosti.
        (HEPATITIS, INFECTIOUS)   (BLOOD PROTEINS)
        (LIPOPROTEINS)   (GLYCOPROTEINS)

GOLUBTSOV, S.A.; POPELEVA, G.S.; ANDRIANOV, K.A.; ZASLAVSKAYA, N.I.

Thermal condensation of trichlorosilane and methyldichlorosilane
with vinyl chloride. Plast.massy no.10:21-26 '62. (MIRA 15:11)
(Silane)
(Vinyl compounds)

ACCESSION NR: AP4035807   8/0020/64/156/001/0047/0049

AUTHOR: Zaslavskaya, N. I.; Zotkin, I. T.; Kirova, O. A.

TITLE: Size distribution of cosmic globules from the region of the Tungus fall

SOURCE: AN SSSR. Doklady*, v. 156, no. 1, 1964, 47-49

TOPIC TAGS: meteorite, cosmic magnetite spherule, Tungus meteorite, meteorite
spherule distribution, comet

ABSTRACT: The expeditions of the Committee on Meteorites of the Academy of Sci.
SSSR in 1958-62 investigated the grounds in the region of the Tungus meteorite
with the purpose of extracting particles of cosmic origin. The samples were taken
from the surface 2 to 3 cm deep. The magnetite portion was magnetically separated,
and observed microscopically. Magnetite globules of tens to hundreds microns in
diameter were found. They were mostly porous or hollow, some were solid. These
spherules were found in increased concentration in the north-western direction
from the epicenter of the explosion along a streak extended for more than 150 km.
The distribution in size is given by the expression $n(M) \sim \frac{1}{M^b}$, where n is the

Card 1/2

ACCESSION NR: AP4035807

number, M the mass of spherules, S = 1.2.· A similar distribution applies to all
meteors observed. It is believed that there is enough evidence to assume that the
Tungus meteorite was the core of a small comet which exploded in passing the
atmosphere at a height of about 10 km. Orig. art. has: 2 figures.

ASSOCIATION: Konitet po meteoritam Akademii Nauk SSSR (Committee on Meteorites,
Academy of Sciences SSSR)

SUBMITTED: 18Dec63   DATE ACQ: 26May64   ENCL: 00

SUB CODE: AA   NO REF SOV: 005   OTHER: 004

Card   2/2

40912
s/191/62/000/010/005/010
B101/B186

5.3833

AUTHORS: Golubtsov, S. A., Popeleva, G. S., Andrianov, K. A., Zaslav-
                skaya, N. I.

TITLE: Thermal condensation of trichloro silane and methyl dichloro
                silane with vinyl chloride

PERIODICAL: Plasticheskiye massy, no. 10, 1962, 21 - 27

TEXT: Thermal condensation of vinyl chloride with methyl dichloro silane
into methyl vinyl dichloro silane (I), and vinyl chloride with trichloro
silane into vinyl trichloro silane (II) was conducted in a reaction tube
of stainless steel under atmospheric pressure and at 30 sec contact time.
Optimum reaction conditions were determined, and the condensation mechanism
and thermal decomposition were studied. Results: The optimum temperature
for synthesizing (I) is 530 - 540°C, the yield is 75 - 80% as referred to
the reacting methyl dichloro silane. The side products are methyl trichloro
silane, butadiene, high-boiling products, and gases containing 2% H_2, 5%
C_2H_4, 4% C_2H_3Cl, 2% CH_4, and up to 1% C_2H_5. The thermal decomposition of

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methyl dichloro silane starts in at 400°C and reaches 20% at 570°C. The gaseous decomposition products contain 75% H_2 and 25% CH_4. The solid residue contains 65% Si but no free carbon. A radical mechanism is assumed, as the solid decomposition products catalyze the decomposition of methyl dichloro silane. The optimum conditions for the synthesis of II are: a molar ratio $HSiCl_3$: C_2H_3Cl = 1 : 1.5 and 500 - 520°C. The yield is 70 - 75% as referred to the reacting $HSiCl_3$, and 60% referred to the reacting vinyl chloride. If the ratio is reduced to 1 : 0.6, the temperature has to be raised to 560 - 580°C. A ratio of 1 : 1 yielded 80% II with respect to $HSiCl_3$. The side products are equal amounts of $SiCl_4$ (15 g-moles per 100 g-moles $HSiCl_3$)and high-boiling polymers. The gas contains 5% H_2. 12% C_2H_4, 3% C_2H_6, the solid residue contains 10 - 50% Si and 30 - 75% elementary carbon. The thermal decomposition of $HSiCl_3$ in H_2, $SiCl_4$, and Si sets in at 560 - 570°C. The effect of the reaction vessel wall on the composition of the reaction products confirms the radical mechanism of the reaction. A surface increase of the reaction vessel by Raschig rings,
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increases the yield of $SiCl_4$ and decreases the yield of II. Purification of the reaction vessel with alkali also reduces the yield of II. A nitrogen oxide addition of 2% reduces the yield of II to 43% and increases that of $SiCl_4$ to 13%. In the reaction of II with HCl at 560 - 570°C, the gas consists of 93% H_2 with 7% C_2H_4. There are 8 figures and 3 tables. The most important English-language references are: English Patent 752700 (1956), C. A., 51, 7402 (1957); US Patent 2770634 (1956), C. A., 51 10560 (1957), Japan Patent no. 16 (1951), C. A., 52, 3673 (1958).

Card 3/3

ZASLAVSKAIA, N. I.; ZOTKIN, I. T.; KIROVA, O. A.

Size distribution of pellets of cosmic origin in the region
of the fall of the Tungus meteor. Dokl. AN SSSR 156 no. 1:
47-49 My '64.
(MIRA 17:5)

1. Komitet po meteoritam N SSSR. Predstavleno akademikom
V. G. Fesenkovym.

ZASLAVSKAYA, N. Ya.

"System of Automatic Control in a Steel Melting Furnace With the Use of a Cross-Field Amplidyne." Sub 16 Mar 51, Moscow Order of Lenin Power Engineering Inst imeni V. M. Molotov

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

ZASLAVSKAYA, N.Ya. (Alma-Ata)

New-type electromagnetic regulators used in steel smelting furnaces.
Avtom. i telem. 15 no.1:54-69 Ja-F '54.   (MIRA 10:3)
        (Electric furnaces)

USSR/ Engineering - Measuring Instruments

Card 1/1   Pub. 123 - 10/11

Authors   :   Zaslavskaya, N. Ya., and Amirov, M. N.

Title   :   Device for continuous control of the thickness of a non-ferrous metal

Periodical   :   Izv. AN Kaz. SSR 12, 96-102, Dec 1955

Abstract   :   Description is given of a contactless electromicrometer (designed by the

Submitted   :   .....

ZASLAVSKAYA, N.Ya.

Increasing the stability of an arc steel furnace. Izv.AN Kazakh.
SSR.Ser.energ.no.11:132-143 '56.
(Smelting furnaces)   (MLRA 10:2)

ZASLAVSKAYA, N. Ya.

ZASLAVSKAYA, N. Ya.

Noncontact induction micrometers. Izm. tekh. no.1:19-20 Ja-F '58.
    (Micrometer)   (Electronic measurements)   (MIRA 11:2)

ZASLAVSKAYA, N.Ya.

Ignoring the small parameters in the analysis of the dynamics
of the block-boiler-turbine. Izv. AN Kazakh. SSR. Ser. tekh.
i khim. nauk no.2:101-106 '63.   (MIRA 17:2)

ZASLAVSKAYA, N. Ya.

      Study of the dynamics of a boiler and turbine block, Izv. AN
Kazakh. SSR. Ser. energ. no.2:28-38 '62.

                                        (MIRA 16:1)

      (Boilers)   (Steam turbines)

ZASLAVSKAYA, N.Ya.

Electronic micrometer for the continuous measuring of the thickness
of rolled strips of nonferrous metals. Trudy Inst. energ. AN Kazakh.
SSR 2:116-120 '60.
(MIRA 15:1)
(Rolling (Metalwork)) (Thickness measurement)

ZASLAVSKAYA, N.Ya.; SULEYMENOVA, L.K.

Experimental dynamic characteristics of a boiler-turbine
unit. Izv.AN Kazakh.SSR Ser.energ. no.2:112-117 '60.
                                        (MIRA 13:7)
        (Boilers) (Steam turbines)

AUTHOR: Zaslavskaya, N.Ya.   SOV/115-58-1-8/50

TITLE: A Contactless Inductive Electromicrometer (Beskontaktnyy
                 induktsionnyy elektromikrometr)

PERIODICAL: Izmeritel'naya tekhnika, 1958, Nr 1, pp 19 - 20 (USSR)

ABSTRACT: The described contactless electromicrometer for continuous mea-
                 suring of a 50 to 250 microns thick brass band in the process
                 of rolling has been used since 1954 on one of the rolling
                 mills of the Balkhashskiy zavod tsvetnogo prokata (Balkhash
                 Nonferrous Metal Rolling Plant). It shows band thickness
                 variations of 1-2 microns and has reduced by 1.5 times the
                 rejects of bands rolled at this mill. There is 1 diagram.

                 1. Micrometers--Design   2. Electricity--Applications

Card 1/1

ZASLAVSKAYA, N. YA.

137-58-5-9140

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 56 (USSR)

AUTHOR: Zaslavskaya, N. Ya.

TITLE: Means of Increasing the Stability of Operation of a Steelsmelting Arc Furnace (Povysheniye ustoychivosti dugovoy staleplavil'noy pechi)

PERIODICAL: Izv. AN KazSSR. Ser. energ., 1956, Nr 11, pp 132-143
(Summary in Kazakh)

ABSTRACT: The unstable burning of arcs in a 1000 kva furnace at the Alma-Ata heavy machinery plant during the period of liquefaction of a charge affects the operation of the power lines. Imported "Rototrol" regulators are not capable of overcoming the inertia of the electrode-raising mechanisms during starts or even when the desired magnitudes of current and voltage have been attained. Stability in operation is reached only at the end of the smelting process. Increasing the effectiveness of the feedback windings increases the stability margin from 0.615, for example, to 1.15; however, this slows down the movement of the electrodes by 11%, reduces sensitivity by as much as 13%, and introduces the necessity of changing the overload-protection relay settings. Therefore, it is advisable to introduce into the

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137-58-5-9140

Means of Increasing the Stability (cont.)

control system an additional stabilizing aggregate, namely, a rate element, the controlling action of which improves the stability of the regulator without effecting a reduction in its sensitivity or speed.

V. T.

1 Electric furnaces--Stability   2. Electric ores--Control systems

Card 2/2

ZASLAVSKAYA, P.S.

Pseudo hermaphroditism. Sov.zdrav.Kir. no.2:51-52 Mr-Ap '58.

(MIRA 12:11)

1. Iz akushersko-ginekologicheskoy kliniki (zav. - prof. M.N. Lekht-man) Kirgizskogo gosmedinstituta.

(GENERATIVE ORGANS, FEMALE--ABNORMITIES AND DEFORMITIES)

ZASLAVNOV, D. I.

23234. Opyt eksploatatsii pogruzochnkyh mashin /na ugol'nykh shakhtakh/.
Mekhanizatsiya trudoyemkikh i tyazhelykh rabot, 1949, No. 7, c. 10-13

SO: LETOPIS' NO. 31, 1949

ACC NR: AP7007808   (A)   SOURCE CODE: UR/0080/67/040/001/0206/0209

AUTHOR: Gluzman, M. Kh.; Zaslavskaya, R. G.

ORG: Kharkov Scientific Research Chemico-Pharmaceutical Institute (Khar'kovskiy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut).

TITLE: Kinetics of phthalylation of acetylcellulose and viscosities of acetyl-phthalylcellulose solutions

SOURCE: Zhurnal prikladnoy khimii, v. 40, no. 1, 1967, 206-209

TOPIC TAGS: cellulose, viscosity, phthalylation, *fluid viscosity*

ABSTRACT: In order to determine the optimum conditions for preparing acetylphthalyl-cellulose (APC) which is soluble in organic solvents and weakly alkaline media, a study was made of the kinetics of phthalylation of acetylcellulose (AC) containing 27-32% acetyl groups at molar ratios of AC to phthalic anhydride equal to 1:3, 1:5 and 1:8 and temperatures of 60, 80 and 100°. The highest degree of substitution by phthalyl groups was obtained at a phthalic anhydride content of 8 moles per mole of AC at 80-100°. A study of the solubility of APC in mixtures of two organic solvents showed that it dissolves best in mixtures containing equal amounts of chloro deriva-tives of a hydrocarbon and alcohol. In mixtures of chloroform and dichloroethane with alcohol containing 5% APC, addition of alcohol first leads to a sharp increase and then to a decrease in the viscosity of the solutions. In dimethylformamide, an

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ACC NR: AP7007808

increase in the concentration of the film-forming agent causes a sharp increase in viscosity, and in acetic acid solution the viscosity increases more regularly. Addition of dibutyl phthalate to an APC solution decreases the viscosity, while Tween 80 increases it.   Orig. art. has: 4 figures and 1 table.

SUB CODE: 07/ SUBM DATE: 21Jan65/ ORIG REF: 001/ OTH REF: 005

Card 2/2

ZASLAVSKAYA, R.I.

USSR/Physical Chemistry - Thermodynamics. Thermochemistry.   B-8
           Equilibrium. Physicochemical analysis. Phase Transitions

Abs Jour   : Referat Zhur - Khimiya, No 2, 1957, 3700

Author   : Shargorodskiy S.D., Zaslavskaya R.I.
Title   : Use of Iron Vitriol in the Preparation of Alkali Metal
              Sulfates by the Hydrothermal Method.

Orig Pub   : Ukr. Khim. zh., 1955, 21, No 6, 694-699

Abstract   : An investigation was made by the thermographic method of
              the decomposition of $FeSO_4 \cdot 7H_2O$ (I) and mixtures of I
              and KCl (II) and NaCl (III). It was found that additions
              of Fe_2O_3 and SiO_2 do not affect the course of the reac-
              tion of I with II and with III. It was found that II and
              III accelerate decomposition of I by almost two times.
              Degree of conversion of II in admixture with I increases
              with temperature and is little affected by duration of
              heating. Decrease by 8 times of the rate of passing of
              steam over the reaction mixture, and also the

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SHARGORODSKIY, S.D.; ZASLAVSKAYA, R.I.

Obtaining potassium and sodium sulfates from alunite and kainito-
langbeinite rocks by the hydrothermal method. Ukr. khim. zhur. 24
no. 2:254-258 '58.   (MIRA 11:6)

1. Institut obshchey i neorganicheskoy khimii AN USSR.
                    (Alunite)
             (Potassium magnesium sulfates)
             (Alkali metal sulfates)

ZASLAVSKAYA, R.M.

Investigation of cholinesterase activity in liver diseases. Terap.
arkh. 26 no.4:72-76 Jl-Ag '54.   (MLRA 7:11)

1. Is 1-go terapevticheskogo otdeleniya (nauchnyy rukovoditel' prof.
A.L.Vilkovyskiy) 4-y kafedry terapii (zav. prof. P.I.Yegorov)
TSentral'nogo instituta usovershenstvovaniya vrachey i TSentral'noy
klinicheskoy bol'nitsy Ministerstva putey soobshcheniya SSSR.
        (LIVER, diseases,
            cholinesterase metab. in)
        (CHOLINESTERASE, metabolism,
            in liver dis.)

CHERKINSKIY, S.N.;   ZASLAVSKAYA, R.M.

Fluorine in underground waters of the R.S.F.S.R. as a causative factor of fluorosis and of caries.   Gig.i san. no.5:22-26 My '53.   (MLRA 6:5)

1. Nauchno-issledovatel'skiy sanitarnyy institut imeni Erismana.
                                    (Fluorine--Physiological effect)

ZASLAVSKAYA, R. M.

"Influence of Natural Sanitary, and Technological Factors on Chemical and
Bacterial Composition of Water in Ground Wells." Thesis for degree of Cand
Medical Sci.   Sub 5 Apr 50, Acad Med Sci USSR

Summary 71, 4 Sep 52. Dissertations Presented for Degrees in Science and
Engineering in Moscow in 1950. From Vechernyaya Moskva, Jan-Dec 1950

CHERKINSKIY, S.N.; ZASLAVSKAYA, N.M.; MIKHAYLOVSKAYA, L.A.; KHOVANSKAYA, M.G.

Fluorine content of the sources of water supply in the Russian
Socialist Federated Soviet Republic. Gidrokhim.mat. no.21:19-23
'53.   (MLRA 7:3)

1. TSentral'nyy nauchno-issledovatel'skiy sanitarnyy institut im.
F.F.Erismana.   (Water supply) (Fluorine)

ZASLAVSKAYA, R.M. (Moscow).

Biliary cirrhosis of the liver due to cholelithiasis. Klin.med.
31 no.12:76 D '53.   (MLRA 7:1)

1. Iz 1-go terapevticheskogo otdeleniya (zaveduyushchiy -
professor A.L.Vilkovyskiy) TSentral'noy klinicheskoy bol'nitsy
Ministerstva putey soobshcheniya.
                          (Liver--Cirrhosis) (Calculi, Biliary)

EXCERPTA MEDICA Sec 6 Vol 13/10 Internal Med Oct 59

5835. BALLISTOCARDIOGRAPHIC CHANGES IN PATIENTS WITH CHRONIC NON-SPECIFIC DISEASES OF THE LUNGS AND CARDIO-PULMONARY INSUFFICIENCY (Russian text) - Zaslavskaya R. M. Moscow - TE RAP. ARKH. 1959, 31/1 (34-46) Graphs 11

The study of mechanics of the heart with the aid of BCG made it possible to reveal impairment of the contractile function of the myocardium in patients with chronic non-specific diseases of the lungs. The more characteristic changes were: high amplitude of all the BCG waves, marked respiratory oscillations of the LF segment, relatively high H and L waves, elongation of the mechanical systole, the symptom of retardment of the beginning of the mechanical systole in relation to the electrical. Patients suffering additionally from cardio-pulmonary failure often had BCG waves of low amplitude which is explained by considerable hypertension existing in the pulmonary circulation. As the symptoms of pulmonary, as well as cardio-pulmonary failure, decreased or were removed a number of BCG changes showed an improvement. Functional test with physical exercise (Master's test) enables, in separate instances, to spot the initial stages of cardio-pulmonary insufficiency. As the pulmonary ventilation improved under the influence of broncholytic agents improvement was noted in a number of BCG changes.   (XVIII, 6, 15)

BELYAYEV, I.I., prof.; BLIOKH, S.S., kand. med. nauk; GABOVICH, R.D.,
     prof.; GORBOV, V.A., dots.; ZHABOTINSKIY, V.M., prof.;
     ZASLAVSKAYA, R.M., kand. med. nauk; KIBAL'CHICH, I.A., kand.
     med. nauk; KROTKOV, F.G., prof.; MOGILEVSKIY, Ya.A., kand. med.
     nauk[deceased]; TRAKHTMAN, N.N., dots.; CHERKINSKIY, S.N., prof.;
     GOROMOSOV, M.S., doktor med. nauk, red.; RYAZANOV, V.A., prof.,
     red.; BUSHTUYEVA, K.A., dots., red.; SELESKIRIDI, I.G., dots.,
     red.; OSTROVERKHOV, G.Ye., prof., glav. red.; PETROVA, N.K.,
     tekhn. red.

[Manual on communal hygiene]Rukovodstvo po kommunal'noi gigiene.
Moskva, Medgiz. Vol.2. 1962. 763 p.   (MIRA 15:12)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for
Krotkov). 2. Chlen-korrespondent Akademii meditsinskikh nauk
SSSR (for Cherkinskiy, Ryazanov).
     (SOIL DISINFECTION)   (WATER SUPPLY)

VILKOVYSKIY, A.L.,prof.; ZASLAVSKAYA, R.M., kand.med.nauk (Moskva)

Changes in the cardiovascular system in pulmonary emphysema.
Klin.med. 38 no.3:102-111 Mr'60.   (MIRA 16:7)

1. Iz filiala legcchnoy patologii AMN SSSR (rukovoditel' --
chlen-korrespondent AMN SSSR prof. P.I.Yegorov) i Instituta
terapii AMN SSSR (dir.-deystvitel'nyy chlen AMN SSSR prof.
A.L.Myasnikov).
           (EMPHYSEMA, PULMONARY)
           (CARDIOVASCULAR SYSTEM—DISEASES)

ZASLAVSKAYA, R. M.   Cand. Med. Sci.

Dissertation: "Influence of the Natural, Sanitary and Technological Factors
                on Chemical and Bacterial Composition of Water in Ground Wells."

5/4/50
Acad. Med. Sci. USSR

SO Vecheryaya Moskva
        Sum 71